

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference HWKP 2 00008	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, Item 5 below.	
International application No. PCT/US 03/ 00847	International filing date (day/month/year) 13/01/2003	(Earliest) Priority Date (day/month/year) 15/01/2002
Applicant HAWK PRECISION COMPONENTS GROUP, INC.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 5 sheets.
☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).
- b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing :
- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☐ Certain claims were found unsearchable (See Box I).

3. ☐ Unity of invention is lacking (see Box II).

4. With regard to the title,

- ☒ the text is approved as submitted by the applicant.
- ☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

- ☐ the text is approved as submitted by the applicant.
- ☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No.

- ☒ as suggested by the applicant.
- ☐ because the applicant failed to suggest a figure.
- ☐ because this figure better characterizes the invention.
- 5
☐ None of the figures.

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Box III TEXT OF THE ABSTRACT (Continuation of item 5 of the first sheet)

A tool rig(10) for the compaction of particulate materials includes a base and a cylinder block(12) disposed on the base(14). At least two pistons(16,18) are disposed within the cylinder block(12) and one piston is at least partially disposed within one other piston. A supply component is disposed in the inner diameter of at least one of the pistons and defines at least one channel. The channel connects an energy supply to at least one of the pistons (16,18).

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A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 B30B11/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B30B F15B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 40 03 016 A (REITTER ERHARDT) 8 August 1991 (1991-08-08)	1-4,6,7, 10,19, 22,23
Y	abstract; figure 1	5,8,9, 11-18, 20,21, 24-28
A	US 4 482 307 A (HERREN DIETMAR ET AL) 13 November 1984 (1984-11-13) cited in the application	1,13,22
Y	column 4, line 17 - line 41; figures	5,9,17, 18,26-28
Y	US 2 509 783 A (RICHARDSON LLOYD D) 30 May 1950 (1950-05-30) column 2, line 53 -column 3, line 7; figure 1	8,11,12, 20,21

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- *T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *A document member of the same patent family

Date of the actual completion of the international search

20 May 2003

Date of mailing of the international search report

28/05/2003

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	FR 1 424 583 A (DBA SA) 14 January 1966 (1966-01-14) abstract; figures ----	13-16
A	US 5 551 856 A (KATAGIRI TAKESHI) 3 September 1996 (1996-09-03) column 5, line 53 -column 6, line 16; figures 1-5 ----	1,13,22
Y		24,25
A	PATENT ABSTRACTS OF JAPAN vol. 1998, no. 03, 27 February 1998 (1998-02-27) & JP 09 295196 A (TSUKIMURA ENG:KK), 18 November 1997 (1997-11-18) abstract; figures 1-5 ----	1,10-13, 19-22
A	US 5 238 375 A (HIRAI KEITA) 24 August 1993 (1993-08-24) abstract; figures 1-7 ----	1,13,22
A	WO 01 08864 A (MATERIALS INNOVATION INC) 8 February 2001 (2001-02-08) cited in the application abstract; figures ----	1,13,22
A	EP 0 586 028 A (MANNESMANN AG) 9 March 1994 (1994-03-09) cited in the application abstract; figures -----	1,13,22

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 03/00847

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
DE 4003016	A	08-08-1991	DE 4003016 A1	08-08-1991
US 4482307	A	13-11-1984	DE 3142126 A1 EP 0077897 A2	11-05-1983 04-05-1983
US 2509783	A	30-05-1950	NONE	
FR 1424583	A	14-01-1966	NONE	
US 5551856	A	03-09-1996	JP 2082347 C JP 6142993 A JP 7098279 B	23-08-1996 24-05-1994 25-10-1995
JP 09295196	A	18-11-1997	JP 3043277 B2	22-05-2000
US 5238375	A	24-08-1993	JP 5140609 A DE 4203572 A1	08-06-1993 19-11-1992
WO 0108864	A	08-02-2001	AU 6749500 A WO 0108864 A1	19-02-2001 08-02-2001
EP 0586028	A	09-03-1994	DE 4227640 A1 AT 138317 T DE 59302669 D1 EP 0586028 A1	24-02-1994 15-06-1996 27-06-1996 09-03-1994